

REMARKS

Claims 1-26 are pending in the present application. Claim 17 was rejected under 35 U.S.C. §112, second paragraph as being indefinite. Claims 11 and 23 were rejected under 35 USC §102(b) as being anticipated by U.S. Patent No. 4,061,875 (Freifeld). Claims 1, 3, 4, 7 and 18 were rejected under 35 USC §102(e) as being anticipated by U.S. Patent No. 6,567,524 (Svean). Claims 24-26 were rejected under 35 USC §103(a) as being unpatentable over Freifeld in view of Svean. Claims 5 and 6 were rejected under 35 USC §103(a) as being unpatentable over Svean in view of U.S. Patent No. 4,538,296 (Short). Claim 2 was rejected under 35 USC §103(a) as being unpatentable over Svean in view of U.S. Patent No. 5,046,101 (Lovejoy). Claims 19 and 20 were rejected under 35 USC §103(a) as being unpatentable over Svean. Claim 22 was rejected under 35 USC §103(a) as being unpatentable over Svean in view of U.S. Patent No. 5,771,441 (Altstatt). Claims 12 and 13 were rejected under 35 USC §103(a) as being unpatentable over Freifeld in view of Lovejoy. Claim 14 was rejected under 35 USC §103(a) as being unpatentable over Freifeld in view of Lovejoy and further in view of U.S. Patent No. 6,061,431 (Knappe). Claim 21 was rejected under 35 USC §103(a) as being unpatentable over Svean in view of U.S. Patent No. 5,317,273 (Hanson). Claims 15 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable over the prior art in the record if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding the rejection of Claim 17 under §112, Second Paragraph, Claim 17 has been amended to recite “a warning system.” Based on at least the foregoing amendment, withdrawal of the rejection of Claim 17 is respectfully requested.

Regarding the rejection of independent Claims 11 and 23 under §102(b), the Examiner states that Freifeld discloses all the elements of the claims. Freifeld teaches an apparatus for providing improved hearing acuity in the presence of high intensity background noise, such as that which exists at an industrial site. The apparatus employs an input microphone 10 which is adapted to receive audio information including noise from the environment. The output of the microphone is applied to an expander circuit, which functions to expand the high-pass audio

frequency band according to the nature and intensity of the noise. The expanded audio signal is applied to a compressor limiter module to reduce the level and limit the amplitude of the signal within predetermined safe limits. Freifeld further teaches “the function of the compressor and limiting section 15 is to protect the ear from harmful noise levels which exceed a predetermined threshold.” (Column 4, Lines 59-61) Moreover, Freifeld teaches “[c]oupled to the output of the limiter module 15 is a low pass filter 16,” and that “[t]he output of the low pass filter 16 is coupled to an attenuator circuit 17. These methods all use limiting means (e.g., limiters and filters) to control a volume. Moreover, Freifeld teaches processing signals in the time domain. Additionally, Freifeld teaches compression and expansion of an audio signal.

Unlike Freifeld, the present invention as recited in Claim 11 and Claim 23 is directed to a system and method, respectively, for controlling a volume output by a set of headphones to prevent harmful sound levels from damaging a user’s hearing by “comparing” the determined sound levels to a volume threshold. This comparison operation uses a comparator rather than a limiter or a filter, to compare signals. The compared signals are then processed by an active volume controller in a further step. Moreover, the signals are compared in the frequency domain and not in the time domain, which allows for precise comparison, control and processing of audio signals in the active volume controller. Furthermore, the system recited in Claim 11 includes a “volume sensor/controller,” which is not disclosed in Freifeld. Based on at least the foregoing session withdrawal of the rejection of claim 11 and claim 23 is respectfully requested.

Regarding the Examiner’s rejection of independent Claims 1 and 18 under §102(e), the Examiner states that the system for controlling the volume output to prevent damaging sound levels from damaging a user’s hearing as recited in Claims 1 and 18 is disclosed by Svean. The Examiner further states that the volume sensor/controller for determining sound levels is recited in Claims 1 and 18 is taught by Svean.

Svean discloses an ear protection device with a sealing section for acoustically sealing the meatus of a human. Moreover, Svean teaches an ear terminal in which a “signal from microphone M2 is amplified, converted to digital form and analyzed by algorithms in processing unit E3.” (Column 11, Lines 32-34.) The microphone M2 is an independent source and is not

connected to an input audio source. (FIG. 2 and FIG. 3) This is contrary to the volume sensor/controller which is recited in Claims 1 and 18 of the present application, wherein the volume sensor/controller which receives an input from an audio source (i.e., the "audio in" signal).

Without conceding the patentability per se of dependent Claims 2-10, 12-14, 17, 19-22 and 24-26, it is submitted that they overcome the prior art by virtue of their dependencies on their respective independent claims, withdrawal of the rejections of claims 2-10, 12-14, 17, 19-22 and 24-26 is respectfully requested.

It is respectfully submitted that Claims 1-26 are in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicant's attorney at the number given below.

Respectfully submitted,



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